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## (54) Make-up compositions for cosmetic use

(57) A make-up composition is in the form of a water-in-oil emulsion comprising a silicone phase, humectant, pigment and water, wherein the composition comprises an external silicone- and humectant-containing oil phase. The make-up composition exhibits superior moisturisation and skin feel, together with reduced tackiness, improved skin appearance and reduced shine.

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## COSMETIC MAKE-UP COMPOSITIONS

### Field of the Invention

The present invention relates to cosmetic make-up compositions and more particularly, to pigmented foundation make-up compositions and blushers.

### Background of the Invention

A foundation composition can be applied to the face and other parts of the body to even skin tone and texture and to hide pores, imperfections, fine lines and the like. A foundation composition is also applied to moisturize the skin, to balance the oil level of the skin and to provide protection against the adverse effects of sunlight, wind and the harsh environment.

Make-up compositions are generally available in the form of liquid or cream suspensions, emulsions, gels, pressed powders or anhydrous oil and wax compositions.

US Patent No. 3,444,291 discloses a method of filling and camouflaging skin cavities by applying a composition which includes 65 to 75 parts by weight of a microcrystalline wax and about 25 to 35 parts of a mineral oil. The composition includes a colourant, preferably a coal tar dye, for example, D &C Red No. 17, which matches the colour of the user's skin.

A spreadable, flowable and greaseless cosmetic cover-up composition is taught in US Patent No 4,486,405. That composition is characterized by

the presence of a first and a second alkoxyolated surfactant present in substantially the same concentration.

US Patent No. 4,804,532 recites a facial cosmetic powder which utilizes crystalline silica in much lower concentration than that employed in the then prior art compositions. This powder, used as a blush or a facial coating, is said to be effective in hiding skin wrinkles, lines and pores. The composition is a mixture of a colour phase and a diluent phase. The colour phase is formed by blending crystalline silica with colourants. The resultant colour phase is mixed with the diluent phase, essentially formed from nacreous materials such as talc and mica, to form the composition.

The use of a foundation composition which has a significantly high concentration of nacreous material is taught in US Patent No. 3,978,207. This foundation, a pressed powder composition, is characterized by the presence of a nacreous material such as mica and a binder oil which provides a frosted pearl effect, that is, a lustrous look. The colour of this foundation is provided by the nacreous material.

US Patent No. 4,659,562 discloses a cosmetic make-up composition which includes, as a binding agent therefore, an intimate mixture of from 5 to 95 weight percent of a mixture of finely divided silica and about 5 to 95 weight percent of finely divided polyethylene fibres. The composition is recited to maintain its uniformity over the areas of the skin to which it is applied. That is, it is said to be "creaseproof". The composition of the '562 patent includes colourant in admixture with nacreous agents.

Nakamura et al., Preprints of the XIVth I.F.S.C.C. Congress, Barcelona, 1986, Vol. I, 51-63 (1986) describes a novel make-up composition utilizing spherical silica and polydimethyl siloxane. This combination is recited to provide a foundation which reduces wrinkle visibility to a greater extent than make-up foundations with which it was compared. This reduction in wrinkle visibility is caused by optical blurring enhanced by the novel use of spherical silica and polydimethyl siloxane.

US Patent No. 5,143,722 discloses a cosmetic make-up composition comprising water-in-oil emulsions comprising pigment coated with

polysiloxane, a silicone phase, a water phase and a polydiorganosiloxane-polyoxylalkylene copolymeric surfactant.

Foundations in the form of water-in oil emulsions are well known and provide good coverage and good skin feel, wear and appearance. These have, however, not been successful from the viewpoint of moisturisation.

In the past, humectants such as water-soluble polyglycerylmethacrylate lubricants and glycerine have been incorporated into skin and hair gel compositions for use as moisturisation agents. These compositions have provided improvements in moisturisation, absorption, skin feel, residue and skin care characteristics compared with conventional cosmetic cream and lotion compositions. They have, however, also suffered negatives such as tackiness and shine, especially when large concentrations of humectant are employed. These problems can be further aggravated in pigmented make-up compositions which by their nature tend to be somewhat tacky in use.

It would therefore be desirable to provide a make-up composition having improved mojsturisation benefits without the consumer negatives such as tackiness and shine.

It is accordingly a primary object of this invention to provide a make-up composition in the form of a water-in-oil emulsion, particularly a water-in-silicone emulsion.

It is also an object of the invention to provide a pigmented make-up composition in the form of a water-in-silicone emulsion which exhibits improved moisturisation together with good skin-feel, application and wear characteristics.

It is a further object of the invention to provide a pigmented make-up composition which exhibits reduced tackiness, reduced shine and reduced greasiness during and after application, and improved skin appearance.

### Summary of the Invention

In accordance with one aspect of the present invention, there is provided a make-up composition comprising:

- a) from about 1% to about 50% by weight of silicone oil preferably comprising a mixture of volatile silicones and non-volatile silicones,
- b) from about 0.1% to about 20% by weight of humectant,
- c) from about 0.1% to about 25% by weight of pigment, and
- d) water,

and wherein the composition is in the form of a water-in-oil emulsion having an external silicone- and humectant-containing oil phase.

The water-in-silicone emulsions of the present invention provide improved moisturisation and skin feel, without consumer-negatives such as tackiness, greasiness and shine. Furthermore, the water-in-silicone emulsions herein give excellent skin appearance, coverage, finish and wear characteristics.

According to another aspect of the present invention there is provided a make-up composition comprising:

- a) from about 1% to about 50% by weight of silicone oil preferably comprising a mixture of volatile silicones and non-volatile silicones,
- b) from about 0.1% to about 20% by weight of humectant,
- c) from about 0.1% to about 25% by weight of pigment,
- d) from about 0.1% to about 10% by weight of a cross-linked hydrophobic acrylate or methacrylate copolymer, and
- e) water,

and wherein the composition is in the form of a water-in-oil emulsion having an external silicone- and humectant- containing oil phase and wherein, in addition, the hydrophobic acrylate or methacrylate copolymer is incorporated in the external silicone-containing oil phase.

All levels and ratios are by weight of total composition, unless otherwise indicated. Chain length and degrees of ethoxylation are also specified on a weight average basis.

#### Detailed Description of the Invention

The make-up composition according to the first aspect of the present invention comprises a mixture of volatile and non-volatile silicones, humectant, pigment and water. The composition herein is in the form of a water-in-oil emulsion having an external silicone- and humectant-containing oil phase.

A first essential component is a silicone oil preferably comprising a mixture of volatile silicones and non-volatile silicones. The silicone oil is present herein in an amount of from about 1% to about 50% by weight. Suitable volatile silicone oils for use herein include cyclic or linear volatile polyorganosiloxanes, (As used herein, "volatile" refers to those materials which have a measurable vapour pressure at ambient conditions).

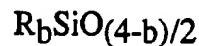
A description of various volatile silicones is found in Todd, et al.. "Volatile Silicone Fluids for Cosmetics", 91 *Cosmetics and Toiletries* 27-32 (1976).

Preferred cyclic silicones include polydimethylsiloxanes containing from about 3 to about 9 silicon atoms, preferably containing from about 4 to about 5 silicon atoms. Preferred linear silicone oils include the polydimethylsiloxanes containing from about 3 to about 9 silicon atoms. The linear volatile silicones generally have viscosities of less than about 5 centistokes at 25°C, while the cyclic materials have viscosities of less than about 10 centistokes. Examples of silicone oils useful in the present invention include: Dow Corning 344, Dow Corning 21330, Dow Corning 345, and Dow Corning 200 (manufactured by the Dow Corning Corporation); Silicone 7207 and Silicone 7158 (manufactured by the Union Carbide Corporation). SF:202 (manufactured by General Electric) and SWS-03314 (manufactured by Stouffer Chemical).

Suitable non-volatile silicones preferably have average viscosity of from about 1,000 to about 2,000,000 mm<sup>2</sup>.s<sup>-1</sup> at 25°C. more preferably from about 10,000 to about 1,800,000 mm<sup>2</sup>.s<sup>-1</sup>, even more preferably from about 100,000 to about 1,500,000 mm<sup>2</sup>.s<sup>-1</sup>. Lower viscosity nonvolatile silicone conditioning agents, however, can also be used. Viscosity can be measured by means of a glass capillary viscometer as set forth in Dow Corning Corporate Test Method CTM0004, July 20, 1970. Suitable nonvolatile silicone fluids for use herein include polyalkyl siloxanes, polyaryl siloxanes, polyalkylaryl siloxanes, polysiloxanes with amino functional substitutions, polyether siloxane copolymers, and mixtures thereof. The siloxanes useful in the present invention may be endcapped with any number of moieties, including, for example, methyl, hydroxyl, ethylene oxide, propylene oxide, amino and carboxyl. However, other silicone fluids having skin conditioning properties may be used. The nonvolatile polyalkyl siloxane fluids that may be used include, for example, polydimethylsiloxanes. These siloxanes are available, for example, from the General Electric Company as a Viscasil (RTM) series and from Dow Corning as the Dow Corning 200 series. Preferably, the viscosity ranges from about 10 mm<sup>2</sup>.s<sup>-1</sup> to about 100,000 mm<sup>2</sup>.s<sup>-1</sup> at 25°C. The polyalkylaryl siloxane fluids that may be used, also include, for example, polymethylphenylsiloxanes. These siloxanes are available, for example, from the General Electric Company as SF 1075 methyl phenyl fluid or from Dow Corning as 556 Cosmetic Grade Fluid. The polyether siloxane copolymer that may be used includes, for example, a polypropylene oxide modified dimethylpolysiloxane (e.g., Dow Corning DC-1248) although ethylene oxide or mixtures of ethylene oxide and propylene oxide may also be used.

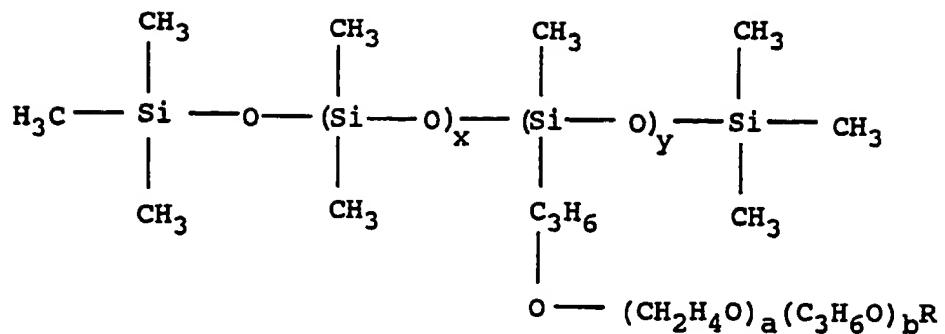
References disclosing suitable silicone fluids include US-A-2,826,551, Green; US-A-3,964,500, Drakoff, issued June 22nd, 1976; US-A-4,364,837, Pader; and GB-A-849,433, Woolston. In addition, *Silicone Compounds* distributed by Petrarch Systems Inc., 1984 provides an extensive (though not exclusive) listing of suitable silicone fluids.

Preferred non-volatile silicones for use herein include polydiorganosiloxane-polyoxyalkylene copolymers containing at least one polydiorganosiloxane segment and at least one polyoxyalkylene segment, said polydiorganosiloxane segment consisting essentially of



siloxane units wherein b has a value of from about 0 to about 3, inclusive, there being an average value of approximately 2 R radicals per silicon for all siloxane units in the copolymer, and R denotes a radical selected from methyl, ethyl, vinyl, phenyl and a divalent radical bonding said polyoxyalkylene segment to the polydiorganosiloxane segment, at least about 95% of all R radicals being methyl; and said polyoxyalkylene segment having an average molecular weight of at least about 1000 and consisting of from about 0 to about 50 mol percent polyoxypropylene units and from about 50 to about 100 mol percent polyoxypropylene units, at least one terminal portion of said polyoxyalkylene segment being bonded to said polydiorganosiloxane segment, any terminal portion of said polyoxyalkylene segment not bonded to said polydiorganosiloxane segment being satisfied by a terminating radical; the weight ratio of polydiorganosiloxane segments to polyoxyalkylene segments in said copolymer having a value of from about 2 to about 8. Such polymers are described in US-A-4,268,499.

More preferred for use herein are polydiorganosiloxane-polyoxyalkylene copolymers having the general formula:



wherein x and y are selected such that the weight ratio of polydiorganosiloxane segments to polyoxalkylene segments is from about 2 to about 8, the mol ratio of a:(a+b) is from about 0.5 to about 1, and R is a chain terminating group, especially selected from hydrogen; hydroxyl; alkyl, such as methyl, ethyl, propyl, butyl, benzyl; aryl, such as phenyl; alkoxy such as methoxy, ethoxy, propoxy, butoxy; benzyloxy; aryloxy, such as phenoxy; alkynloxy, such as vinyloxy and allyloxy; acyloxy, such as acetoxy, acryloxy and propionoxy and amino, such as dimethylamino.

The number of and average molecular weights of the segments in the copolymer are such that the weight ratio of polydiorganosiloxane segments to polyoxyalkylene segments in the copolymer is preferably from about 2.5 to about 4.0.

Suitable copolymers are available commercially under the tradenames Belsil (RTM) from Wacker-Chemie GmbH, Geschäftsbereich S, Postfach D-8000 Munich 22 and Abil (RTM) from Th. Goldschmidt Ltd., Tego House, Victoria Road, Ruislip, Middlesex, HA4 0YL. Particularly preferred for use herein are Belsil (RTM) 6031, Abil (RTM) B88183 and DC3225C.

The silicone oil phase preferably comprises from about 2% to about 25%, more preferably from about 5% to about 15% by weight of composition of non-volatile silicones.

A second essential component is a humectant or mixture of humectants. The humectant or mixture of humectants herein is present in an amount of

from about 0.1% to about 20% preferably from about 0.2% to about 15% by weight of composition. Suitable humectants are selected from glycerine and polyglycerylmethacrylate lubricant having a viscosity at 25°C of 300,000 to 1,100,000 cps; a specific gravity at 25°C of 1 to 1.2g/ml, a pH of 5.0 to 5.5; a bound water content of 33 to 58%; and, a free water content from 5 to 20%.

The humectant is incorporated at least partly into the oil phase of the water-in-oil emulsion. The oil phase preferably comprises from about 0.1% to about 10%, more preferably from about 0.1% to about 3% by weight of humectant on a composition basis. Suitably, the humectant is incorporated in the oil phase in the form of a mixture with or incorporated within a particulate lipophilic or hydrophobic carrier material. The humectant can, however, also be incorporated in the internal aqueous phase of the water-in-oil emulsion.

Polyglycerylmethacrylate lubricants having the desired properties are marketed by Guardian Chemical Corporation under the trademark "Lubrajel". The "Lubrajels" identified as "Lubrajel DV", "Lubrajel MS", and "Lubrajel CG" are preferred in the present invention. The gelling agents sold under these trademarks contain about 1% propylene glycol.

Other suitable humectants include sorbitol, panthenols, propylene glycol, butylene glycol, hexylene glycol, alkoxylated glucose derivatives, such as Glucam (RTM) E-20, hexanetriol, and glucose ethers, and mixtures thereof. Urea is also suitably added as a humectant in the internal aqueous phase.

The panthenol moisturiser can be selected from D-panthenol ([R]-2,4-dihydroxy-N-[3-hydroxypropyl])-3,3-dimethylbutamide), DL-panthenol, calcium pantothenate, royal jelly, panthetine, pantotheine, panthenyl ethyl ether, pangamic acid, pyridoxin, pantoyl lactose and Vitamin B complex.

The preferred humectant herein is glycerine. Chemically, glycerine is 1,2,3-propanetriol and is a product of commerce.

A third essential component herein is a pigment. The pigment used in the compositions of the present invention can be inorganic and/or organic. Also included within the term pigment are materials having a low colour or lustre such as matte finishing agents, and also light scattering agents. Examples of suitable pigments are iron oxides, acylglutamate iron oxides, ultramarine blue, D&C dyes, carmine, and mixtures thereof. Depending upon the type of make-up composition, whether foundation or blusher, a mixture of pigments will normally be used.

The foundation composition can also include at least one matte finishing agent. The function of the matte finishing agent is to hide skin defects and reduce shine. Such cosmetically acceptable inorganic agents, i.e., those included in the CTFA Cosmetic Ingredient Dictionary, Third Ed., as silica, hydrated silica, mica, talc, polyethylene, titanium dioxide, bentonite, hectorite, kaolin, chalk, diatomaceous earth, attapulgite and the like may be utilized. Of particular usefulness as a matte finishing agent is low lustre pigment such as titanated mica (mica coated with titanium dioxide) coated with barium sulfate. Of the inorganic components useful as a matte finishing agent low lustre pigment, talc, polyethylene, hydrated silica, kaolin, titanium dioxide and mixtures thereof are particularly preferred. Materials suitable for use herein as light-scattering agents can be generally described as spherical shaped inorganic materials having a particle size of up to about 100 microns, preferably from about 5 to about 50 microns, for example spherical silica particles.

The total concentration of the pigment may be from about 0.1 to about 25% by weight and is preferably from about 1 to about 10% by weight of the total composition, the exact concentration being dependent to some extent upon the specific mixture of pigments selected for use in a foundation make-up or blusher to achieve the desired shades. The preferred compositions contain from about 2% to about 20% by weight of titanium dioxide and most preferably from about 5% to about 10% by weight of titanium dioxide.

The preferred pigments for use herein from the viewpoint of moisturisation, skin feel, skin appearance and emulsion compatibility are treated pigments. The pigments can be treated with compounds such as

amino acids, silicones, lecithin and ester oils. The more preferred pigments are the silicone (polysiloxane) treated pigments.

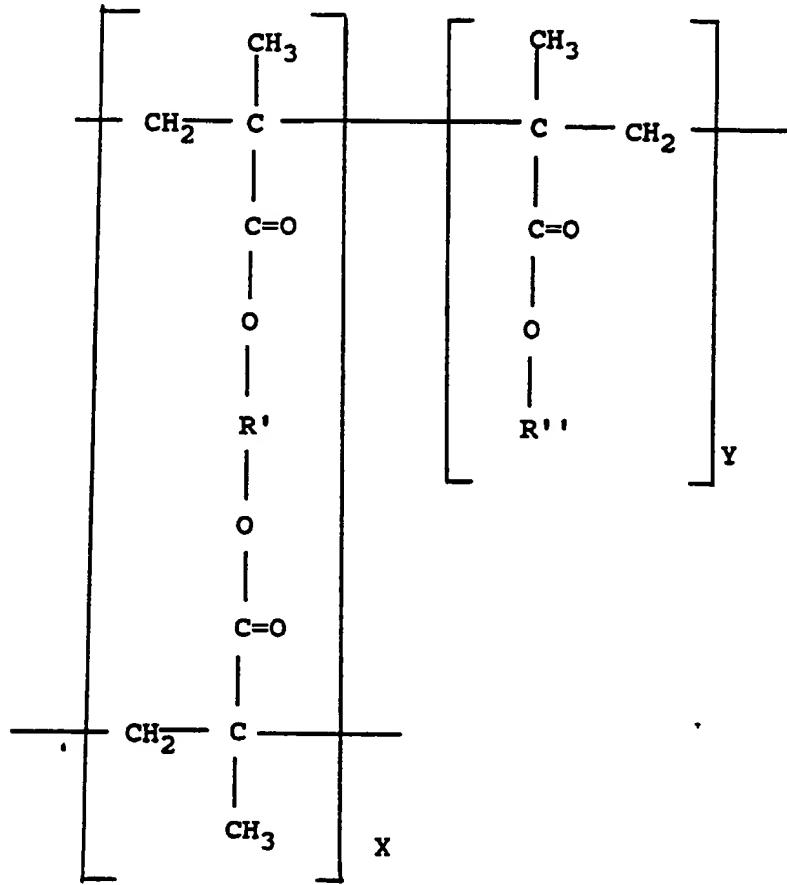
The balance of the composition of the present invention is deionized water. The composition comprises from about 30% to about 95%, preferably from about 40% to about 80% by weight of the oil phase, and from about 5% to about 70%, preferably from about 20% to about 60% by weight of the water phase.

The make-up compositions according to the second aspect of the present invention comprises a mixture of volatile silicones and non-volatile silicone, humectant, pigment, water and a particulate cross-linked hydrophobic acrylate or methacrylate copolymer. This copolymer is particularly valuable for reducing shine and controlling oil while helping to provide effective moisturization benefits. The cross-linked hydrophobic polymer is preferably in the form of a copolymer lattice with at least one active ingredient dispersed uniformly throughout and entrapped within the copolymer lattice.

The cross-linked hydrophobic polymer is preferably present in an amount of from about 0.1% to about 10% by weight and is incorporated in the external silicone-containing oil phase. The active ingredient can be one or more or a mixture of skin compatible oils, skin compatible humectants, emollients, moisturizing agents and sunscreens. The polymer material is in the form of a powder, the powder being a combined system of particles. The system of powder particles forms a lattice which includes unit particles of less than about one micron in average diameter, agglomerates of fused unit particles of sized in the range of about 20 to 100 microns in average diameter and aggregates of clusters of fused agglomerates of sizes in the range of about 200 to 1,200 microns in average diameter.

The powder material of the present invention which can be employed as the carrier for the active ingredient can be broadly described as a cross-linked "post absorbed" hydrophobic polymer lattice. The powder preferably has entrapped and dispersed therein, an active which may be in the form of a solid, liquid or gas. The lattice is in particulate form and

constitutes free flowing discrete solid particles when loaded with the active material. The lattice may contain a predetermined quantity of the active material. The polymer has the structural formula:



where the ratio of x to y is 80:20, R' is  $-\text{CH}_2\text{CH}_2-$  and R" is  $-(\text{CH}_2)^{11}\text{CH}_3$ .

The hydrophobic polymer is a highly crosslinked polymer, more particularly a highly cross-linked polymethacrylate copolymer. The material is manufactured by the Dow Corning Corporation, Midland, Michigan, USA, and sold under the trademark POLYTRAP (RTM). It is an ultralight free-flowing white powder and the particles are capable of absorbing high levels of lipophilic liquids and some hydrophilic liquids while at the same time maintaining a free-flowing powder character. The powder structure consists of a lattice of unit particles less than one micron that are fused into agglomerates of 20 to 100 microns and the agglomerates are loosely clustered into macro-particles or aggregates of

about 200 to about 1200 micron size. The polymer powder is capable of containing as much as four times its weight of fluids, emulsions, dispersion or melted solids.

Adsorption of actives onto the polymer powder can be accomplished using a stainless steel mixing bowl and a spoon, wherein the active is added to the powder and the spoon is used to gently fold the active into the polymer powder. Low viscosity fluids may be adsorbed by addition of the fluids to a sealable vessel containing the polymer and then tumbling the materials until a consistency is achieved. More elaborate blending equipment such as ribbon or twin cone blenders can also be employed. The preferred active ingredient for use herein is glycerine. Preferably, the weight ratio of humectant : carrier is from about 1:4 to about 3:1.

The make-up compositions herein can additionally comprise an emollient. Emollients suitable for the compositions of the present invention include hydroxy acid esters; fatty acid esters; polyoxyalkylene ethers; polyalkylene glycols; lanolin, lanolin derivatives such as lanolin alcohol, ethoxylated lanolin alcohol, hydroxylated lanolin, acetylated lanolin and cholesterol; long chain hydrocarbons such as squalane, mineral oil and petrolatum; straight and branched chain diesters and triesters; esters derived from C8 alcohols; and mixtures thereof.

Preferred emollients are selected from cetearyl isononanoate isopropyl palmitate, isopropyl isostearate, cetyl octanoate, cetyl acetate, trioctyl citrate, PEG isoceteth-3 acetate, dioctyl maleate, propylene glycol dicaprylate/dicaprate, caprylic/ capric triglyceride, mineral oil, PPG-20 methylglucose ether, and lanolin alcohol, and mixtures thereof. These emollients may be used independently or in mixtures and may be present in the composition of the present invention in an amount from about 1% to about 30% by weight, and preferably are present in an amount from about 5% to about 15% by weight of the total composition.

The composition may also contain additional materials such as, for example, fragrances, fillers such as nylon, sun-screens, preservatives, proteins, antioxidants, chelating agents and water-in-oil emulsifiers as appropriate.

Another optional component of the make-up composition is one or more ultraviolet absorbing agents. Ultraviolet absorbing agents, often described as sunscreening agents, can be present in a concentration in the range of between about 1% and about 12% by weight, based on the total weight of composition. Preferably, the UV absorbing agents constitute between about 2% and 8% by weight. More preferably, the UV absorbing agents can be present in the composition in a concentration range of between about 4% and about 6% by weight. Of the ultraviolet absorbing agents suitable for use herein, benzophenone-3, octyl dimethyl PABA (Padimate O) and mixtures thereof are particularly preferred.

A chelating agent can also be incorporated in the make-up composition. A chelating agent is preferably present in the composition in a concentration in the range of between about 0.02% to about 0.10% by weight, based on the total weight of the composition. Preferably, the chelating agent is present in a concentration in the range of between about 0.03% and about 0.07% by weight, based on the total weight of the composition. Among the chelating agents that may be included in the composition is trisodium EDTA.

Another optional but preferred component of the foundation composition is one or more preservatives. The preservative concentration in the foundation composition, based on the total weight of that composition, is in the range of between about 0.2% and about 0.8% by weight, preferably between about 0.4% and about 0.6% by weight. Suitable preservatives for use herein include diazolidinyl urea, methyl paraben and ethyl paraben and mixtures thereof.

The make-up compositions of the present invention can be in the form of foundations, blushers, concealers, compact powders, and the like, preferably as foundations and blushers.

The following Table is provided to illustrate compositions of the make-up of the present invention:

Example	I Wt %	II Wt %	III Wt %	IV Wt %	V Wt %	VI Wt %	VII Wt %
<b>A.</b>							
Cetyl octanoate	2.00	0.0	0.0	2.0	5.0	2.0	2.0
Cyclomethicone	8.574	12.25	12.25	15.0	12.0	8.574	8.57
Cyclomethicone/ dimethicone copolyol (90:10)	17.16	20.0	20.0	5.0	8.0	10.0	17.16
Propylparaben (33%) in laureth-7	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Diethyl maleate	0.0	0.0	0.0	0.0	10.0	0.0	0.0
Dimethicone	0.0	0.0	0.0	3.0	5.0	10.0	0.0
Benzophenone-3	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Propylene glycol							
Dicaprylate/ Dicaprate	0.0	0.0	0.0	5.0	0.0	10.0	0.0
<b>B.</b>							
Titanium Dioxide	8.25	6.0	1.5	6.0	8.0	20.0	8.25
Titanium Dioxide treated (Aluminium hydrate, stearic acid)	0.25	0.5	3.0	0.25	0.25	0.0	0.25
Titanated Micas	0.1	0.1	0.1	0.25	1.0	0.0	0.1
Talc	3.387	4.5	6.0	0.7	0.7	0.7	3.387
Silica	0.6	4.25	6.0	4.25	0.6	0.6	0.6
Nylon	0.0	0.0	0.0	0.0	0.5	0.0	0.0
<b>C.</b>							
Cyclomethicone/ dimethicone copolyol (90:10)	1.858	1.5	1.85	5.0	1.0	1.0	1.858

Example	I	II	III	IV	V	VI	VII
	Wt %						
Acrylates							
Copolymer	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Acrylates							
Copolymer							
(loaded with							
glycerine)	1.0	0.0	6.0	1.0	1.0	1.0	1.0

## D.

## Yellow Iron

Oxide	1.2	1.2	0.6	0.4	1.2	1.2	1.2
Red Iron Oxide	0.49	0.6	0.6	0.49	0.49	0.2	0.6
Black Iron Oxide	0.16	0.1	0.24	0.1	0.1	0.24	0.24
Ultramarine Blue	0.0	0.00	0.00	0.1	0.0	0.0	0.0
Cyclomethicone	0.0	0.0	0.0	0.0	0.68	0.0	0.0

## E.

Synthetic Wax	0.1	0.5	0.5	0.1	--	--	--
Arachidyl							
behenate	0.3	--	--	0.3	0.5	0.3	0.3
Stearic Acid	0.0	--	--	--	--	--	2.5
Palmitic Acid	0.0	--	--	--	--	2.5	--

## F.

Trihydroxy-	0.3	0.3	1.5	1.5	--	--	--
stearin							
Cyclomethicone	1.0	4.0	--	--	4.0	4.0	4.0

## G.

Ethylene	0.05	0.05	0.05	0.05	0.05	0.05	0.05
brassylate							

Example	I Wt %	II Wt %	III Wt %	IV Wt %	V Wt %	VI Wt %	VII Wt %
<b>H.</b>							
Deionized water				-----to 100-----			
Methyl paraben (2.1%) in							
propylene glycol	5.75	5.75	5.75	5.75	5.75	5.75	5.75
Propylene glycol	2.37	2.37	2.37	2.37	0.0	2.37	0.0
Sodium chloride	2.0	2.0	2.0	2.0	2.0	2.0	2.5
Sodium dihydroacetate	0.3	0.3	0.3	0.8	0.8	0.3	0.8
Glycerine	4.5	10.0	10.0	5.0	0.0	10.0	15.0
Trisodium EDTA	0.0	0.0	0.0	0.0	0.0	0.0	0.01
Triethanolamine	0.0	0.0	0.0	0.0	0.0	0.0	0.75
Allantoin	0.0	0.0	0.1	0.0	0.0	0.0	0.0
hydroxyethyl- cellulose	0.0	0.0	0.1	0.0	0.0	0.0	0.0
sunscreen	0.0	0.0	0.0	0.2	0.2	0.0	0.0
<b>I.</b>							
Deionized Water	0.0	0.0	0.0	0.0	10.0	--	--
Magnesium Aluminium							
Silicate	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Polyglyceryl- methacrylate*	0.0	0.0	8.0	0.0	0.0	0.0	0.0
<b>J.</b>							
Propylene Glycol	0.0	0.0	0.0	2.0	0.0	0.0	0.0
Xanthan Gum	0.0	0.0	0.0	0.08	0.0	0.0	0.0
<b>K.</b>							
Essential Oils	0.0	--	--	0.20	--	--	--

Example	I	II	III	IV	V	VI	VII
	Wt	Wt	Wt	Wt	Wt	Wt	Wt
	%	%	%	%	%	%	%
Perfume Oil	0.0	0.25	--	0.20	--	--	--
Vitamin A							
Palmitate	0.0	0.05	--	--	--	--	--
L.							
Aloe Vera Gel	0.0	0.0	3.0	--	--	--	--
Chamomile							
Extract	0.0	0.0	0.1	--	--	--	--

\* Contains about 1% propylene glycol.

The various components listed in the Table have been segregated into groups, the constituents of each group being mixed together before being added to members of the remaining groups in accordance with the procedures set forth below.

In the first step, the mixture of components of phase A is stirred for approximately 5 minutes with sheer mixing until homogeneous. With high speed sheer mixing, the materials of phase B are added gradually to A and the batch is mixed for 20 minutes until dispersed.

The components of phase C and then phase D are slowly added to the mixture of phases A and B with high shear mixing until dispersed. Silica is added at this point and dispersed through the mixture.

The resulting batch heated to 90°C before the addition of the components of phase E. The vessel is cooled to 55°C and the premixed phase F is added. The batch is mixed until homogeneous. The mixture is cooled to 30°C and phase G is added.

A premix of phase H is made by mixing all the components until completely dissolved. At 30°C the premix of phase H is added to the batch mixture with high shear, ensuring that there is no excess water on the surface. The mixture is then milled for 15 minutes.

Finally phases I, J, K, and L are added as diluent.

The resulting make-up composition is ready for packaging.

The make-up compositions of the Examples exhibit improved moisturisation and skin-feel benefits, with reduced shine and tackiness and improved skin appearance.

**CLAIMS**

1. A make-up composition comprising:
  - a) from about 1% to about 50% by weight of silicone oil,
  - b) from about 0.1% to about 20% by weight of humectant,
  - c) from about 0.1% to about 25% by weight of pigment, and
  - d) water,

wherein the composition is in the form of a water-in-oil emulsion having an external silicone- and humectant-containing oil phase.
2. A make-up composition according to Claim 1 wherein the volatile silicone oil is selected from cyclic polyorganosiloxanes having viscosities of less than about 10 centistokes and linear polyorganosiloxanes having viscosities of less than about 5 centistokes at 25°C, and mixtures thereof.
3. A make-up composition according to Claim 2 wherein the volatile silicone oil is selected from cyclic polydimethylsiloxanes containing from about 3 to about 9 silicon atoms, preferably containing from about 4 to about 5 silicon atoms and linear polydimethylsiloxanes containing from about 3 to about 9 silicon atoms.
4. A make-up composition according to Claim 1 wherein the non-volatile silicone oil is selected from polyorganosiloxanes-polyoxyalkylene copolymers containing at least one polydiorganosiloxane segment and at least one polyoxyalkylene segment.
5. A make-up composition according to Claim 4 wherein the non-volatile silicone oil is cyclomethicone copolyol.
6. A make-up composition according to Claim 1 wherein the humectant is selected from glycerine and polyglycerylmethacrylate lubricants having a viscosity of from about 300,000-1,100,000cps at 25°C, and mixtures thereof.

7. A make-up composition according to Claim 6 wherein the humectant is glycerine.
8. A make-up composition according to Claim 1 wherein the silicone oil phase comprises from about 2% to about 25%, preferably from about 5% to about 15% by weight of composition of non-volatile silicones.
9. A make-up composition according to any of Claims 1 to 8 wherein the pigment is silicone treated.
10. A make-up composition according to any of Claims 1 to 9 comprising from about 0.2% to about 15% by weight of composition of humectant.
11. A make-up composition comprising:
  - a) from about 1% to about 50% by weight of silicone oil,
  - b) from about 0.1% to about 20% by weight of humectant,
  - c) from about 0.1% to about 25% by weight of pigment,
  - d) from about 0.1% to about 10% by weight of a cross-linked hydrophobic acrylate or methacrylate copolymer, and
  - e) water,

wherein the composition is in the form of a water-in-oil emulsion having an external silicone- and humectant-containing oil phase and wherein, in addition, the hydrophobic acrylate or methacrylate copolymer is incorporated in the external silicone-containing oil phase.

12. A make-up composition according to Claim 11 wherein the cross-linked hydrophobic copolymer is in the form of a lattice and wherein at least one active ingredient is dispersed uniformly throughout and entrapped within the copolymer lattice, the active ingredient being selected from skin compatible oils, skin compatible humectants, emollients, moisturizing agents and sunscreens.

13. A make-up composition according to Claim 12 wherein the active ingredient is selected from humectants, preferably glycerine.
14. A make-up composition according to any of Claims 1 to 13 additionally comprising from about 0.1% to about 10% by weight of a matte finishing agent selected from silica, hydrated silica, mica, talc, polyethylene, titanium dioxide, bentonite, hectorite, kaolin, chalk, diatomaceous earth and attapulgite, and mixtures thereof.
15. A make-up composition according to Claim 14 wherein the matte finishing agent is selected from silica or hydrated silica.
16. A make-up composition according to any of Claims 1 to 15 additionally comprising from about 1% to about 15% by weight of an emollient selected from fatty acid esters, polyoxyalkylene ethers, polyalkylene glycols, long chain hydrocarbons, lanolin, lanolin derivatives, hydroxy acid esters, straight and branched chain diesters and triesters, esters derived from C<sub>8</sub> alcohols, and mixtures thereof.
17. A make-up composition according to Claim 16 wherein the emollient is selected from isopropyl palmitate, isopropyl isostearate, dioctyl maleate, propylene glycol dicaprylate/propylene glycol dicaprate, caprylic triglyceride/capric triglyceride, squalane, mineral oil, cetearylisononanoate and lanolin alcohol, and mixtures thereof.
18. A make-up composition according to any of Claims 1 to 17 wherein the oil phase comprises from about 0.1% to about 10%, preferably from about 0.1% to about 3%, by weight of humectant on a composition basis.
19. A make-up composition according to any of Claims 1 to 18 additionally comprising humectant in the internal aqueous phase.
20. A make-up composition according to any of Claims 1 to 19 comprising from about 30% to about 95%, preferably from about 40% to about 80% by weight of the oil phase, and from about 5% to

about 70%, preferably from about 20% to about 60% by weight of the water phase.

21. A make-up composition according to any of Claims 1 to 20 additionally comprising one or more ultraviolet absorbing agents.

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Examiner's report to the Controller under Section 17  
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M R WENDT

Databases (see below)

(i) UK Patent Office collections of GB, EP, WO and US patent specifications.

Date of completion of Search  
15 APRIL 1994

(ii) ONLINE DATABASE WPI, CLAIMS, JAPIO

Documents considered relevant following a search in respect of Claims :-  
1-21

Categories of documents

X: Document indicating lack of novelty or of inventive step.  
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&: Member of the same patent family; corresponding document.

Category	Identity of document and relevant passages		Relevant to claim(s)
X	EP 0456459 A2	(UNILEVER) See Claim 1 examples page 8 line 56 page 9 lines 13-16	1,14,15,21
X	EP 0373661 A2	(KAO) See Claim 1 page 3 lines 4 to line 9, page 6 line 42 to line 55. Examples	1,13,14
X	EP 0271925 A2	(REVLON) See Claims 1-4 examples	1,7,8,14
X	EP 0076146 A2	(P&G) See Claims 1-4 pages 4 and 5	1,13,14

Databases: The UK Patent Office database comprises classified collections of GB, EP, WO and US patent specifications as outlined periodically in the Official Journal (Patents). The on-line databases considered for search are also listed periodically in the Official Journal (Patents).